METADATA FOR THE 1993 LEGAL DELTA LAND USE SURVEY DATA

Originator:

California Department of Water Resources

Date of Metadata:

December 5, 2000

Abstract:

The 1993 Legal Delta land use reconnaissance survey data set was developed by DWR through it’s Division of Planning and Local Assistance. The data was developed using aerial photography and the previous Legal Delta detailed land use survey (1991), the land use boundaries and attributes were digitized, and the resultant data went through standard quality control procedures before finalizing. The land uses that were gathered were generalized agricultural, urban and native land uses. The data was gathered and digitized by staff of DWR’s Central District and the quality control procedures were performed jointly by staff at DWR’s DPLA headquarters from Central District.

The finalized data include DWG files (land use vector data) and shape files (land use vector data).

Purpose:

DWR prepared this data as input to a report required under SB 443 (approved September 26, 1992). This legislation required DWR to submit to the Legislature, on or before January 1, 1994, a report on land use patterns within the boundaries of the delta and the lands immediately adjacent to the delta. The DWR report, "A Report on Land Use Patterns in the Sacramento-San Joaquin Delta" dated December 1993, contained data and maps of generalized land use in the Legal Delta for 1976, 1993, and the changes between those years.

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Data Development:

1. The aerial photography used for this survey was taken in late June of 1993. The photographs were natural color slides taken from an altitude of about 5,500 feet above ground. The 1991 Legal Delta land use survey quad maps were plotted, and the photography was used to update the 1991 data. The land use codes used for this survey consisted of agricultural-cropped, agricultural-uncropped, urban, native land, and water surface.

2. Using AUTOCAD, the land use boundaries and attributes were digitized (using a standardized digitizing process) from the field sheets on a digitizing tablet.

3. After quality control/assurance procedures were completed on each file (DWG), the data was finalized.

4. The linework and attributes from each DWG quad file were brought into ARCINFO and both quad and surveywide coverages were created, and underwent quality checks. These coverages were converted to shape files using ARCVIEW.

Data Accuracy:

The land use boundaries were hand drawn onto USGS 1:24,000 quads, and digitized on a digitizing tablet using AUTOCAD. For those areas where the lines were drawn onto USGS quads and digitized, the accuracy is less than that of the quads (about 50 foot accuracy).

The land use attributes were determined through interpretation of photography and the detailed land use from two years prior (1991). There were no field visits, except in Contra Costa County, where a concurrent detailed land use survey was being performed. The accuracy is believed to be high, mainly because the land use identified were very generalized (not detailed). The possible sources of attribute errors are:

1) Misidentification of land use (and entering that incorrect attribute on the quad);
2) Accidentally affixing an incorrect attribute during the digitizing process.

Projection Information:

The data (DWG and shape files) is in a transverse mercator projection, with identical parameters to UTM projections, except the central meridian is -120 degrees (120 degrees west). For comparison, UTM 10 has a central meridian of 123 degrees west, and UTM 11 has a central

meridian of 117 degrees west. This projection allows virtually all of the geographic area of California to be in one 6 degree zone (as opposed to two zones, UTM 10 and 11).

Projection:	Transverse Mercator
Datum:	NAD27
Units:	Meter
Scale Reduction:	0.9996
Central Meridian:	120 degrees west
Origin Latitude:	0.00 N
False Easting:	500,000
False Northing:	0.00

Land Use Attributes:

There were only five land use attributes used in this survey:

AC - Agricultural Cropped (agricultural land currently cropped)
AF - Agricultural Uncropped (agricultural land not currently cropped)
U - Urban
NV - Native Classes
NW - Water Surface
Z - Not in survey area

Information on the AUTOCAD (DWG) Files:

The land use data is available in AUTOCAD 12 format by quad, with one file per quad. The file naming convention is 93DLXXXX.DWG, where XXXX is the DWR quadrangle number. For example, file 93DL3124.DWG is the AUTOCAD drawing file for the 1993 Legal Delta land use survey for quadrangle 3124 (the Isleton quad).

Every quadrangle file has identical layers, nomenclature, and line colors. They are as follows:

Layer	Description	Color
0	AutoCAD's default layer	White
CQN	California DWR quad number	Cyan
GSN	USGS quad number	Cyan
LUB	Land use boundary lines	Yellow
LUC	Land use codes for GRASS	White
LUT	Visible land use text	Green
QB	The quad's boundary	White
QN	Quad name	Cyan

Following is an explanation of the attributes (for each delineated area) in the LUC layer of each quad file for a normal detailed survey:

ACRES:	Number of acres in the delineated area (may or may not be present)

WATERSOURC:	The type of water source used for the delineated area
MULTIUSE:	Type of land uses within the delineated area
CLASS1:	The class for the first land use
SUBCLASS1:	The subclass for the first land use
SPECOND1:	The special condition for the first land use
IRR_TYP1:	Irrigated or non-irrigated, and irrigation system type for the first land use
PCNT1:	The percentage of land associated with the first land use
CLASS2:	The class for the second land use
SUBCLASS2:	The subclass for the second land use
SPECOND2:	The special condition for the second land use
IRR_TYP2:	Irrigated or non-irrigated, and irrigation system type for the second land use
PCNT2:	The percentage of land associated with the second land use
CLASS3:	The class for the third land use
SUBCLASS3:	The subclass for the third land use
SPECOND3:	The special condition for the third land use
IRR_TYP3:	Irrigated or non-irrigated, and irrigation system type for the third land use
PCNT3:	The percentage of land associated with the third land use

For this survey, the only land use data is under the CLASS1 heading, and it would be one of the six generalized land use codes from above.

Information on the Shape Files:

Shape files were created for each quad, and one for the whole survey area. The naming conventions used for the quad DWG files is used for the quad shape files (for example, 93DL3124.shp, 93DL3124.shx, and 93DL3124.dbf for quad number 3124, the Isleton quad). The name of the shape file for the whole survey area is 93DL.shp (and .dbf and .shx). Following is an explanation of the land use attributes in the DBF files for normal detailed surveys:

BL_X:	This is the X coordinate of the interior point in the delineated area
BL_Y:	This is the Y coordinate of the interior point in the delineated area
ACRES:	Number of acres in the delineated area (may or may not be present)
WATERSOURC:	The type of water source used for the delineated area
MULTIUSE:	Type of land uses within the delineated area
CLASS1:	The class for the first land use
SUBCLASS1:	The subclass for the first land use
SPECOND1:	The special condition for the first land use
IRR_TYP1A:	Irrigated or non-irrigated for the first land use
IRR_TYP1B:	Irrigation system type for the first land use

PCNT1:	The percentage of land associated with the first land use
CLASS2:	The class for the second land use
SUBCLASS2:	The subclass for the second land use
SPECOND2:	The special condition for the second land use
IRR_TYP2A:	Irrigated or non-irrigated for the second land use
IRR_TYP2B:	Irrigation system type for the second land use
PCNT2:	The percentage of land associated with the second land use
CLASS3:	The class for the third land use
SUBCLASS3:	The subclass for the third land use
SPECOND3:	The special condition for the third land use
IRR_TYP3A:	Irrigated or non-irrigated for the third land use
IRR_TYP3B:	Irrigation system type for the third land use
PCNT3:	The percentage of land associated with the third land use
UCF_ATT:	Concatenated attributes from MULTIUSE to PCNT3

For this survey, the only land use data is under the CLASS1 heading, and it would be one of the six generalized land use codes from above.

Important Points about Using this Data Set:

1. The land use boundaries were hand drawn directly on USGS quad maps and then digitized. They were drawn to depict observable areas of the same land use. They were not drawn to represent legal parcel (ownership) boundaries, or meant to be used as parcel boundaries.

2. If the data is to be brought into a GIS for analysis of cropped (or planted) acreage it must be understood that the acreage of each field delineated is the gross area of the field. The amount of actual planted and irrigated acreage will always be less than the gross acreage, because of ditches, farm roads, other roads, farmsteads, etc. Thus, a delineated Agricultural Cropped field may have a GIS calculated acreage of 40 acres but will have a smaller cropped (or net) acreage, maybe 38 acres.

3. This was a reconnaissance survey with little field work. It is very different from DWR normal detailed land use surveys. Only six generalized land use attributes were used.